

REMARKS

Claims 1 to 14 are pending in this application. Claim 15 has been cancelled.

Claims 2, 3, 5, and 6 have been amended. A marked-up version of the amended claims is attached hereto.

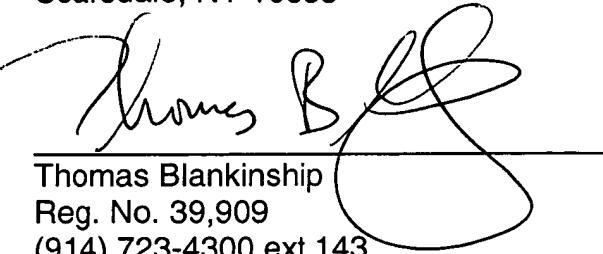
Applicants elect Group 1 (claims 1-14) for further prosecution. Accordingly, claim 15 has been cancelled.

Per the Examiner's request, SEQ. ID. NOs. have been added to the claims. In addition, the amino acid sequences in the claims, which used single letter amino acid designations, have been amended to match the previously submitted Sequence Listing, which uses triple letter amino acid designations.

Applicants respectfully request favorable consideration and that the claims of this application be passed to allowance.

Date: December 9, 2002

Respectfully submitted,
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MARKED-UP VERSION OF AMENDED CLAIMS

2. (Amended) Recombinant antibody according to claim 1 wherein the CDRs sequences of the light and heavy chains are the following:

HEAVY CHAIN

Ser Ala Tyr Asn Trp His [SEQ. NO. 1]

~~CDR1: S D Y N W H~~

Tyr Ile Ser Tyr Asn Gly Thr Thr Ser Tyr Asn Pro Ser Leu Lys Ser [SEQ. NO. 2]

~~CDR2: Y I S Y N G T T S Y N P S L K S~~

Asn Asp Glu Arg Ala Trp Phe Ala Tyr [SEQ. NO. 3]

~~CDR3: N D E K A W F A Y~~

LIGHT CHAIN

Lys Ser Ser Gln Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn [SEQ. NO. 4]

~~CDR1: K S S Q S L L D S D G K T Y L N~~

Leu Val Ser Lys Leu Asp Ser [SEQ. NO. 5]

~~CDR2: L V S K L D S~~

Trp Gln Gly Thr His Phe Pro His Thr [SEQ. NO. 6]

~~CDR3: W Q G T H F P H T~~

3. (Amended) Recombinant antibody according to claims 1 and 2 which is a chimeric antibody derived from murine monoclonal antibody IOR C5 which contains the CDRs and framework regions (FRs) of the antibody IOR C5 and human constant

regions of the light and heavy chains, wherein said framework amino acid sequences of the heavy and light chains are the following:

HEAVY CHAIN

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln

Thr Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr [SEQ. NO. 7]

~~FR1: D V Q L Q E S G P G L V K P S Q T L S L T C T V T G Y S I T~~

Trp Ile Arg Gln Phe Pro Gly Lys Gly Leu Glu Trp Met Gly [SEQ. NO. 8]

~~FR2: W I R Q F P G K G L E W M G~~

Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe Leu Gln

Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys Ala Arg [SEQ. NO. 9]

~~FR3: R I S I T R D T S K N Q F F L Q L N S V T T E D T A T Y Y C A R~~

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala [SEQ. NO. 10]

~~FR4: W G Q G T L V T V S A~~

LIGHT CHAIN

Asp Trp Trp Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Leu Gly

Gln Pro Ala Ser Ile Ser Cys [SEQ. NO. 11]

~~FR1: D V V M T Q T P L T L S V T L G Q P A S I S C~~

Trp Leu Leu Gln Arg Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr [SEQ. NO. 12]

~~FR2: W L L Q R P G Q S P R R L I Y~~

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ala

Leu Lys Ile Arg Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys [SEQ. NO. 13]

FR3: G V P D R F S G S G S G T D F A L K I R R V E A E D L G V Y Y C

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Lys Ser Thr Leu Thr [SEQ. NO. 14]

FR4: F G G G T K L E I K R K S T L T G

5. (Amended) Humanised antibody according to claim 4 which has in the framework regions of the heavy and light chains any of the following point mutations

HEAVY CHAIN:

Position 10 ASP for ~~per~~ GLY

Position 17 SER for ~~per~~ THR

Position 43 ASN for ~~per~~ LYS

Position 44 LYS for ~~per~~ GLY

LIGHT CHAIN:

Position 15 ILE for ~~per~~ LEU

Position 45 LYS for ~~per~~ ARG

Position 63 THR for ~~per~~ SER

6. Single chain Fv fragment according to claim 1, comprising the following sequences of the frameworks and CDRs for the variable regions of the light and heavy chains:

HEAVY CHAIN

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln

Thr Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr [SEQ. NO. 7]

FR1: D V Q L Q E S G P G L V K P S Q T L S L T C T V T G Y S I T

Trp Ile Arg Gln Phe Pro Gly Lys Gly Leu Glu Trp Met Gly [SEQ. NO. 8]

~~FR2: W I R Q F P G K G L E W M G~~

Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe Leu Gln

Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys Ala Arg [SEQ. NO. 9]

~~FR3: R I S I T R D T S K N Q F F L Q L N S V T T E D T A T Y Y C A R~~

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala [SEQ. NO. 10]

~~FR4: W G Q G T L V T V S A~~

Ser Ala Tyr Asn Trp His [SEQ. NO. 1]

~~CDR1: K S S Q S L L D S D G K T Y L N~~

Tyr Ile Ser Tyr Asn Gly Thr Thr Ser Tyr Asn Pro Ser Leu Lys Ser [SEQ. NO. 2]

~~CDR2: L V S K L D S~~

Asn Asp Glu Arg Ala Trp Phe Ala Tyr [SEQ. NO. 3]

~~CDR3: W Q G T H F P H T~~

LIGHT CHAIN

Asp Trp Trp Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Leu Gly

Gln Pro Ala Ser Ile Ser Cys [SEQ. NO. 11]

~~FR1: D V V M T Q T P L T L S V T L G Q P A S I S C~~

Trp Leu Leu Gln Arg Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr [SEQ. NO. 12]

~~FR2: W L L Q R P G Q S P R R L I Y~~

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ala

Leu Lys Ile Arg Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys [SEQ. NO. 13]

~~FR3: G V P D R F S G S G S G T D F A L K I R R V E A E D L G V Y Y C~~

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Lys Ser Thr Leu Thr [SEQ. NO. 14]

~~FR4: F G G G T K L E I K R K S T L T G~~

Lys Ser Ser Gln Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn [SEQ. NO. 4]

~~CDR1: K S S Q S L L D S D G K T Y L N~~

Leu Val Ser Lys Leu Asp Ser [SEQ. NO. 5]

~~CDR2: L V S K L D S~~

Trp Gln Gly Thr His Phe Pro His Thr [SEQ. NO. 6]

~~CDR3: W Q G T H F P H T~~